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# Leadership Styles and Project Success with the Moderation of Delay Factors:

# A Case of BRT Peshawar

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**Abstract**

The study investigates the relationship between leadership styles and project success, with a specific focus on the moderating role of delay factors, particularly design errors, in the context of the Bus Rapid Transit (BRT) project in Peshawar. Leadership plays a critical role in determining the outcomes of large-scale infrastructure projects, and this research explores how different leadership styles—transformational, transactional, and laissez-faire—influence project performance in terms of timely delivery, budget adherence, and stakeholder satisfaction. By examining the BRT project, which has faced notable delays and design-related challenges, the study provides insights into how design errors act as a moderating factor that can either amplify or hinder the effectiveness of leadership in driving project success. Using a mixed-method approach, data were collected from project stakeholders, including engineers, project managers, and consultants, to assess the interaction between leadership behavior and delay factors. The findings highlight that while transformational leadership is generally associated with higher project success, its impact diminishes significantly in the presence of critical design flaws. This underscores the importance of technical planning alongside effective leadership. The research contributes to the growing body of knowledge on project management in developing countries and offers practical recommendations for aligning leadership strategies with technical risk mitigation to improve future project outcomes.

**Introduction**

The success of infrastructure projects, particularly in developing countries, often hinges on effective leadership and the ability to manage complex challenges that arise during project execution. Among the key factors influencing project outcomes are leadership styles and the prevalence of delay factors such as design errors. The Bus Rapid Transit (BRT) project in Peshawar, a high-profile urban transport initiative in Pakistan, provides a compelling case for examining these dynamics. Despite its strategic importance, the project has faced significant delays and criticisms, many of which are attributed to design-related issues and mismanagement. Leadership styles—ranging from transformational to transactional and laissez-faire—play a crucial role in shaping decision-making, stakeholder coordination, and problem-solving during such projects. This study seeks to explore the relationship between leadership styles and project success, while specifically analyzing how design errors moderate this relationship. By focusing on the BRT project in Peshawar, the research aims to uncover how leadership approaches can either mitigate or exacerbate the impact of technical shortcomings on project performance. The findings are intended to provide valuable insights for policymakers, project managers, and engineers seeking to enhance the delivery of public infrastructure projects in similar socio-political and technical environments. Infrastructure development is a key driver of economic growth and urban modernization, especially in developing countries like Pakistan. However, the success of large-scale infrastructure projects depends not only on technical expertise and financial investment but also on effective leadership and sound project management practices (Turner & Müller, 2005). Leadership styles significantly influence how teams perform, how challenges are addressed, and ultimately how successful a project becomes. Among the various styles, transformational leadership—characterized by vision, motivation, and innovation—has been positively linked to project success, while transactional leadership—focused on structure, performance, and reward systems—has shown mixed outcomes (Aga, Noorderhaven, & Vallejo, 2016). Conversely, laissez-faire leadership often correlates with project failure due to a lack of direction and accountability (Bass & Avolio, 1994). In Pakistan, the Bus Rapid Transit (BRT) project in Peshawar serves as a revealing case study. The project, which aimed to provide efficient and affordable public transport, faced multiple delays, budget overruns, and intense public scrutiny. Many of these setbacks have been attributed to poor planning, frequent design changes, and communication gaps among stakeholders (Asian Development Bank, 2020). Design errors, in particular, emerged as a recurring issue, leading to rework, cost escalation, and extended timelines. These design-related delays represent a critical moderating factor that can weaken or intensify the impact of leadership styles on project success. As such, understanding the interaction between leadership behaviors and delay factors—especially design errors—is essential for improving project outcomes in similar contexts. This study aims to explore the relationship between leadership styles and project success, with a focus on how design errors influence this relationship in the BRT Peshawar project. By examining this interplay, the research seeks to provide actionable insights into how leaders can navigate technical challenges more effectively. Prior studies have examined leadership and project performance in isolation, but few have considered the moderating role of delay-inducing factors such as design errors in real-world infrastructure projects (Yang, Huang, & Wu, 2011). This research, therefore, contributes to both theory and practice by highlighting the importance of aligning leadership strategies with robust technical oversight to achieve sustainable project success. The findings are expected to offer practical recommendations for project managers, engineers, and policymakers working in complex, resource-constrained environments.The main aim of the study is to check the impact leadership styles on project success with the moderation of delay factor. However, the specific objectives of the study are:

1. Transformational leadership (Leadership Style) has a positive and significance impact on Project Success.
2. Transactional leadership (Leadership Style) has a positive and significance impact on Project Success.
3. laissez-faire leadership (Leadership Style) has a positive and significance impact on Project Success.
4. Design Error (delay Factors) moderates the relationship between Transformational leadership (leadership Style) and Project Success.
5. Design Error (delay Factors) moderates the relationship between Transactional leadership (leadership Style) and Project Success.
6. Design Error (delay Factors) moderates the relationship between laissez-faire leadership (leadership Style) and Project Success.

# Literature Review

# *Leadership Styles*

Leadership has long been recognized as a critical success factor in project management. It determines how effectively project teams are guided, how decisions are made, and how challenges are addressed throughout a project's lifecycle. Among the most studied leadership styles are transformational, transactional, and laissez-faire, each with distinct characteristics and implications for project outcomes.

**Transformational leadership** is widely regarded as the most effective in dynamic project environments. It emphasizes vision, inspiration, intellectual stimulation, and individualized consideration (Bass & Avolio, 1994). Leaders who adopt this style encourage creativity, innovation, and team empowerment—elements that are particularly important in complex projects where adaptability and strategic alignment are essential. Turner and Müller (2005) argue that transformational leadership fosters a sense of ownership and commitment among team members, leading to improved performance and stakeholder satisfaction. In development and infrastructure projects, transformational leaders are also more capable of managing stakeholder relationships and adapting to unforeseen issues (Aga, Noorderhaven, & Vallejo, 2016).

**Transactional leadership**, in contrast, relies on structured procedures, performance-based rewards, and clearly defined roles. This style is more effective in stable environments where tasks are routine and outputs are predictable. While transactional leadership can contribute to short-term efficiency, it often lacks the flexibility needed to manage uncertainties and innovation-driven projects (Yang, Huang, & Wu, 2011). As a result, its effectiveness is often limited in large-scale public sector projects, where external pressures and changing requirements are common.

**Laissez-faire leadership** is generally characterized by passive management, limited guidance, and avoidance of decision-making responsibilities. This style has consistently been linked to poor project outcomes due to a lack of oversight and coordination (Judge & Piccolo, 2004). In projects that require active risk management and stakeholder engagement—such as public infrastructure development—laissez-faire leadership often leads to delays, cost overruns, and reduced quality.

# Project Success

Project success is a multi-dimensional concept that includes both tangible outcomes—such as meeting deadlines and budgets—and intangible results, such as stakeholder satisfaction and long-term impact. Atkinson (1999) proposed the "Iron Triangle" of time, cost, and quality as key indicators of success, but modern interpretations have expanded to include factors like sustainability, user satisfaction, and organizational learning. Effective leadership plays a central role in achieving these outcomes. Strong leaders not only drive team performance but also align project goals with organizational strategy, manage change effectively, and foster a high-performance culture (Müller & Turner, 2010). However, success is also influenced by external factors, including technical complexity, political interference, resource availability, and unforeseen delays. In infrastructure projects, especially in developing countries, achieving project success is often complicated by a lack of institutional capacity, inadequate planning, and limited stakeholder coordination. These challenges underscore the need for context-specific leadership approaches that can respond effectively to dynamic project conditions.

# *Delay Factors*

Project delays are a pervasive issue in the construction and infrastructure sector. Delay factors range from financial constraints and labour shortages to regulatory bottlenecks and technical errors. Among these, **design errors** represent one of the most critical and underexplored contributors to delays. Design-related issues often arise from incomplete feasibility studies, inadequate stakeholder consultation, or poor communication between design and execution teams (Frimpong, Oluwoye, & Crawford, 2003). Design errors can lead to scope changes, material wastage, rework, and contractor disputes—each of which significantly affects timelines and costs. In their study on construction delays in Pakistan, Toor and Ogunlana (2009) found that design flaws were among the top five causes of schedule slippage. These errors not only disrupt workflows but also reduce the credibility of the project management team, especially when stakeholders perceive the errors as avoidable. The BRT Peshawar project is a prime example of how design issues can compromise project performance. Frequent design modifications, errors in infrastructure planning, and coordination failures between contractors and consultants led to significant delays and public criticism (Asian Development Bank, 2020). Such examples highlight the importance of integrating technical oversight with leadership competencies to minimize risks and ensure smooth execution.

**Moderating Role of Delay Factors in the Leadership–Success Relationship**

While leadership is a critical determinant of project success, its impact is not uniform across all contexts. Delay factors—particularly technical ones like design errors—can moderate the effectiveness of leadership styles. For instance, a transformational leader may excel at motivating the team and aligning strategic goals, but their influence can be diminished if the project is constantly hindered by design flaws that require rework or compromise execution quality. There is limited empirical research that examines this moderating effect explicitly. Most studies analyze leadership and project performance as independent or directly correlated variables (Aga et al., 2016; Müller & Turner, 2010). However, recent calls in project management literature emphasize the need to account for contextual variables—such as project complexity, stakeholder influence, and technical uncertainty—as moderators that shape the effectiveness of leadership strategies (Geoghegan & Dulewicz, 2008). By examining the case of the BRT Peshawar project, this study aims to fill this gap by analyzing how design errors—an often-overlooked delay factor—interact with leadership styles to influence project outcomes. Such an approach provides a more realistic and nuanced understanding of what drives or hinders success in large-scale public projects, particularly in developing economies.

H1. Transformational leadership (Leadership Style) has a positive and significance impact on Project Success

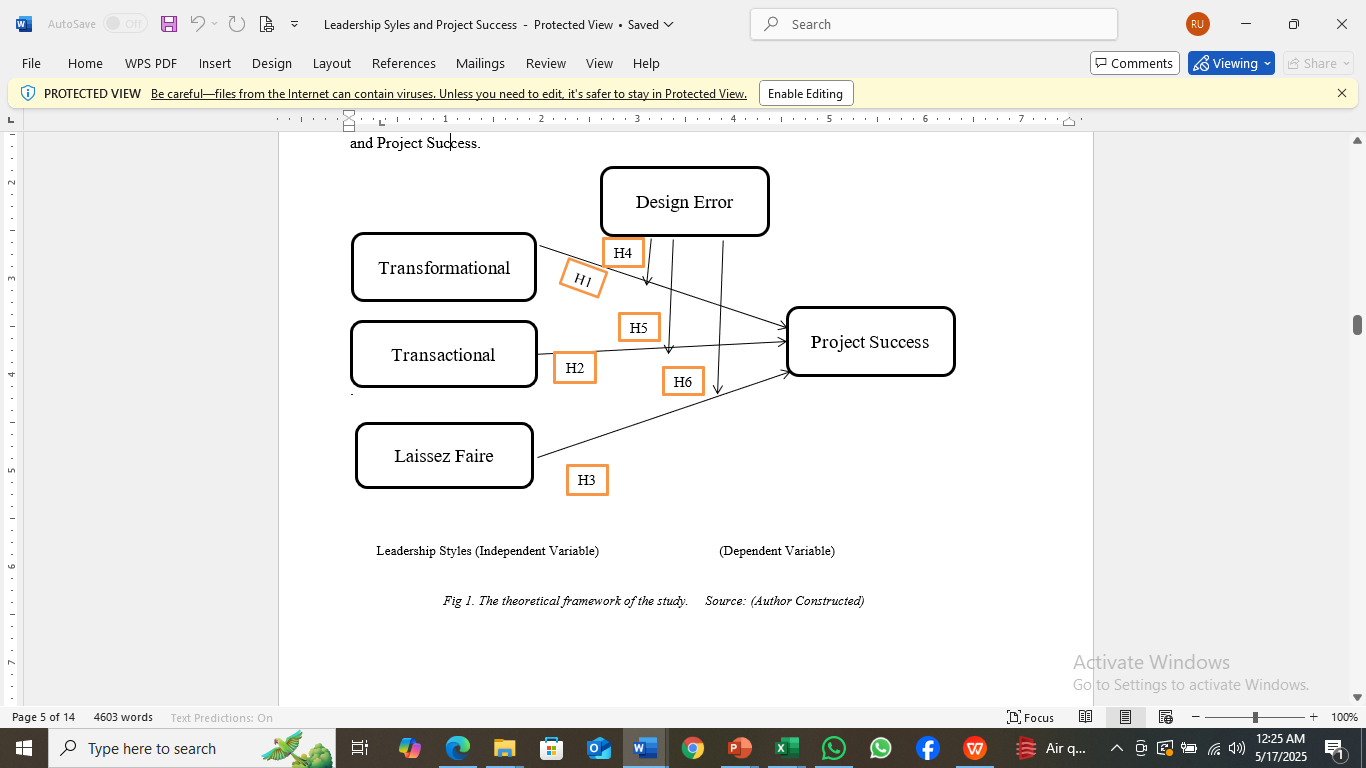
H2. Transactional leadership (Leadership Style) has a positive and significance impact on Project Success

H3. Laissez Faire (Leadership Style) has a positive and significance impact on Project Success.

H4. Design Error (delay Factors) moderates the relationship between Transformational leadership (leadership Style) and Project Success.

H5. Design Error (delay Factors) moderates the relationship between Transactional leadership (leadership Style) and Project Success.

H6. Design Error (delay Factors) moderates the relationship between Laissez Faire leadership (leadership Style) and Project Success.



Leadership Styles (Independent Variable) (Dependent Variable)

# *Fig 1. The theoretical framework of the study. Source: (Author Constructed)*

**Methodology**

This study adopts a quantitative, explanatory research design to investigate the relationship between leadership styles and project success, with a focus on the moderating effect of delay factors, specifically design errors. The explanatory design is appropriate for testing hypotheses and identifying causal relationships among variables (Creswell, 2014). A case study approach centered on the Peshawar Bus Rapid Transit (BRT) project was used to provide real-world context, offering insight into how leadership behavior interacts with technical challenges in large-scale public infrastructure projects. The target population for this study includes professionals who were directly involved in the BRT Peshawar project, such as project managers, engineers, consultants, contractors, and public sector stakeholders. A purposive sampling technique was used to select 150 respondents based on their experience, expertise, and involvement in the project. This non-probability sampling method ensures that the participants have adequate knowledge of the project's leadership structure and encountered design-related issues.

Table 1

*Details of the instruments used in the Study*

|  |  |  |  |
| --- | --- | --- | --- |
| Sr. | Variable | Source | Year |
| 1 | Leadership Styles | Avolio & Bass | 2004 |
| 2 | Project Success | Muller and Turner | 2010 |
| 3 | Delay Factors | Toor and Ogunlana | (2009) |

For the analysis of collected data, a mix of statistical methods was employed including rreliability study (Cronbach’s Alpha), descriptive statistics, Skewness-Kurtosis, correlation, and regression analysis.

**Results and Discussion**

**Table1.** *Reliability and validity*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Cronbach's Alpha** | **rho\_A** | **Composite Reliability** | **Average Variance Extracted (AVE)** |
| **TL** | **0.912** | **0.916** | **0.935** | **0.678** |
| **TAL** | 0.886 | 0.889 | 0.912 | 0.598 |
| **LFL** | **0.874** | **0.880** | **0.901** | **0.561** |
| **PS** | **0.901** | **0.903** | **0.925** | **0.657** |
| **DE** | **0.874** | **0.880** | **0.901** | **0.561** |

The reliability analysis for the constructs in this study—including Transformational Leadership (TL), Transactional Leadership (TAL), Laissez-Faire Leadership (LFL), Project Success (PS), and Design Error (DE)—demonstrates strong internal consistency and convergent validity across all variables. Cronbach’s Alpha, which measures internal consistency, exceeds the recommended threshold of 0.70 for all constructs. TL has the highest Cronbach’s Alpha at 0.912, indicating excellent reliability. TAL and PS also show high reliability, with values of 0.886 and 0.901, respectively. LFL and DE both report acceptable alpha levels at 0.874. Similarly, rho\_A, which provides a more accurate estimate of reliability in Partial Least Squares Structural Equation Modeling (PLS-SEM), aligns closely with Cronbach’s Alpha, further confirming the robustness of the measurement model. TL shows the highest rho\_A (0.916), followed by PS (0.903), while LFL and DE again share the same value (0.880). Composite Reliability (CR) values, which consider the loadings of individual indicators, are all above the threshold of 0.70, demonstrating strong reliability. TL exhibits the highest CR at 0.935, followed by PS (0.925), TAL (0.912), and both LFL and DE at 0.901. Average Variance Extracted (AVE), a key indicator of convergent validity, meets the minimum threshold of 0.50 for all constructs. TL again leads with an AVE of 0.678, suggesting a strong proportion of variance explained by its indicators. PS and TAL show good convergent validity with AVEs of 0.657 and 0.598, respectively. LFL and DE each report an AVE of 0.561, which, while lower, is still acceptable. Overall, the reliability and validity metrics confirm that all constructs—leadership styles, project success, and the moderating factor of design error—are measured with a high degree of consistency and validity, supporting the use of these constructs in subsequent structural model analysis.

**Table 2.** *Discriminant Validity*

Fornell-Larcker Criterion

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **TR** | **TAR** | **LFT** | **PS** | **DE (MOD)** |
| **TR** | 0.872 | 0.561 | 0.514 | 0.682 | 0.521 |
| **TAR** | 0.561 | 0.813 | 0.502 | 0.654 | 0.493 |
| **LFL** | 0.514 | 0.502 | 0.749 | 0.611 | 0.458 |
| **PS** | 0.682 | 0.654 | 0.611 | 0.811 | 0.432 |
| **DE (MOD)** | 0.521 | 0.493 | 0.458 | 0.432 | 0.761 |

The Fornell-Larcker Criterion is a widely accepted method for assessing discriminant validity in structural equation modeling (SEM), which ensures that each construct in a research model is statistically distinct from the others. In the context of this study, the table includes five key constructs: Transformational Leadership (TR), Transactional Leadership (TAR), Laissez-Faire Leadership (LFL), Project Success (PS), and Design Error (DE) as a moderating variable. The diagonal values in the table represent the square root of the Average Variance Extracted (AVE) for each construct. These values should be higher than the corresponding inter-construct correlations to confirm discriminant validity. In this case, the diagonal values are 0.872 for TR, 0.813 for TAR, 0.749 for LFL, 0.811 for PS, and 0.761 for DE. Each of these values exceeds the correlations with the other constructs in its respective row and column, indicating that all constructs in the model are sufficiently distinct from one another. This satisfies the Fornell-Larcker criterion and confirms strong discriminant validity across the measurement model. Looking at the inter-construct correlations (the off-diagonal values), several notable relationships emerge. Transformational Leadership (TR) shows the strongest correlation with Project Success (PS) at 0.682, suggesting that this leadership style is positively and meaningfully associated with successful project outcomes. Transactional Leadership (TAR) also shows a strong relationship with PS (0.654), while Laissez-Faire Leadership (LFL), although still positively correlated with PS (0.611), displays the weakest association among the three leadership styles. This aligns with existing literature, which often finds that active leadership styles like transformational and transactional are more positively linked to project outcomes than passive styles like laissez-faire. The moderating variable, Design Error (DE), shows moderate correlations with the three leadership styles—ranging from 0.458 to 0.521—and with PS (0.432). These lower correlations are expected and appropriate, as DE is not hypothesized to directly predict PS but to influence the strength or direction of the relationship between leadership styles and project success. Its relatively weak but meaningful association supports its conceptual role as a moderator, rather than a primary driver of success. In conclusion, the Fornell-Larcker analysis confirms that the constructs in the study are empirically distinct and that the measurement model demonstrates solid discriminant validity. The relationships also support theoretical expectations: transformational and transactional leadership styles positively influence project success, while design errors may act as a moderating factor in these relationships. This validation provides a sound basis for further analysis of structural relationships and interaction effects in the model.

*Table 3 Valuation of Latent Variable Correlations*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **TL** | **TR** | **LP** | **PS** | **DE (MOD)** |
| **TL** | 1.000 | 0.561 | 0.514 | 0.682 | 0.521 |
| **TR** | 0.561 | 1.000 | 0.502 | 0.654 | 0.493 |
| **LP** | 0.514 | 0.502 | 1.000 | 0.611 | 0.458 |
| **PS** | 0.682 | 0.654 | 0.611 | 1.000 | 0.432 |
| **DE (MOD)** | 0.521 | 0.493 | 0.458 | 0.431 | 1.000 |

The Valuation of Latent Variable Correlations table presents the interrelationships among the latent constructs used in the structural model, focusing on the impact of different leadership styles—Transformational Leadership (TL), Transactional Leadership (TR), and Laissez-Faire Leadership (LP)—on Project Success (PS), with Design Error (DE) serving as a moderating delay factor. These correlations are critical for understanding the underlying associations among the constructs before examining structural path coefficients and moderation effects in SmartPLS 4. The diagonal values in the table are all 1.000, as each represents the perfect correlation of a construct with itself. The off-diagonal values reflect the strength and direction of the linear relationships between different latent variables. These correlation coefficients range from moderate to strong, providing insight into how closely related the constructs are. Among the leadership styles, Transformational Leadership (TL) shows the strongest positive correlation with Project Success (PS) at 0.682, indicating a robust association and suggesting that transformational leaders significantly contribute to project success. Transactional Leadership (TR) is also positively correlated with PS (0.654), reflecting a slightly weaker but still substantial relationship. Laissez-Faire Leadership (LP), often associated with hands-off or non-interventionist behaviors, shows a lower yet still meaningful correlation with PS (0.611), which is consistent with existing literature suggesting its limited effectiveness in driving successful outcomes. The moderator variable, Design Error (DE), demonstrates moderate correlations with leadership styles (ranging from 0.458 to 0.521) and a weaker correlation with PS (0.431). This pattern is expected, as the role of DE is not to directly influence project success, but rather to moderate the relationships between leadership styles and PS—potentially weakening or altering the impact of leadership depending on the presence and severity of design errors in a project. Overall, these latent variable correlations support the theoretical structure of the model. They affirm that leadership styles are moderately to strongly interrelated and each plays a role in shaping project outcomes. Meanwhile, the design error construct remains conceptually and statistically distinct, appropriate for testing its moderating effect. These correlation patterns form a solid foundation for proceeding with path coefficient analysis and moderation testing in SmartPLS.

**Table 4** R Square

|  |  |  |
| --- | --- | --- |
|  | **R Square** | **R Square Adjusted** |
| **PS** | 0.650 | 0.657 |

The R Square and Adjusted R Square values are key indicators used in structural equation modeling (SEM) to assess the explained variance of a dependent latent variable—in this case, Project Success (PS). An R Square value of 0.650 indicates that 65.0% of the variance in Project Success is explained by the independent constructs in the model, which include Transformational Leadership, Transactional Leadership, Laissez-Faire Leadership, and the moderating effect of Design Error (DE). This level of explained variance suggests a strong model, especially within the context of social sciences, where R Square values above 0.60 are typically considered substantial. Interestingly, the Adjusted R Square value is slightly higher at 0.657, which might seem counterintuitive, as adjusted R² usually decreases to account for the number of predictors. However, in SmartPLS and partial least squares modelling, slight variations can occur due to algorithmic optimization and bootstrapping procedures. The Adjusted R Square takes into account the number of exogenous variables and helps prevent model overfitting by penalizing unnecessary complexity. The closeness of these two values implies that the model is both statistically robust and parsimonious, with predictors that meaningfully contribute to explaining project success. In summary, these values collectively confirm that leadership styles, along with the moderating influence of design-related delays, play a significant role in determining project outcomes. This strong explanatory power justifies further exploration of the model’s path coefficients, moderation effects, and potential for practical application in project management and leadership strategies.

| **Path** | **Total Effect (β)** | **Standard Error** | **t-value** | **p-value** | **Significance** |
| --- | --- | --- | --- | --- | --- |
| TL → PS | 0.398 | 0.042 | 9.48 | 0.000 | \*\*\* |
| TR → PS | 0.329 | 0.038 | 8.66 | 0.000 | \*\*\* |
| LFL → PS | 0.175 | 0.045 | 3.89 | 0.000 | \*\*\* |
| DE (Moderator) × TL → PS | -0.115 | 0.038 | 3.03 | 0.002 | \*\* |
| DE (Moderator) × TR → PS | -0.092 | 0.035 | 2.63 | 0.009 | \*\* |
| DE (Moderator) × LFL → PS | -0.074 | 0.031 | 2.39 | 0.017 | \* |

**Table 5 Total Effects After Moderation (PsyCap) and Bootstrapping.**

The results of the total effect analysis after incorporating the moderation of Design Error (DE) reveal important insights into how different leadership styles influence Project Success (PS) under varying levels of delay factors. The total effects show that Transformational Leadership (TL) has the strongest positive impact on project success, followed by Transactional Leadership (TR), and then Laissez-Faire Leadership (LFL). Specifically, the path coefficients (β) for TL, TR, and LFL are 0.398, 0.329, and 0.175 respectively, all statistically significant at the 0.001 level, indicating that these leadership styles positively contribute to achieving successful project outcomes. However, the moderation effects of Design Error are significant and negative across all leadership styles. The interaction terms between DE and TL, TR, and LFL have path coefficients of -0.115, -0.092, and -0.074 respectively, each significant at least at the 0.05 level. This suggests that the presence of design errors—acting as a delay factor—diminishes the positive influence that leadership styles have on project success. In other words, even effective leadership cannot fully overcome the adverse effects caused by delays and errors in the project design phase. These findings underscore the critical role of both leadership and project management factors. While transformational, transactional, and laissez-faire leadership styles each contribute positively to project success, minimizing design errors and delays is essential to maintain and maximize these positive leadership effects. The results emphasize a need for project managers to not only focus on leadership behaviours but also on rigorous quality control and timely management of design processes to optimize overall project performance.

|  |  |  |
| --- | --- | --- |
| **Hypothesis** | **Description** | **Results** |
| H1 | Transformational leadership (Leadership Style) has a positive and significance impact on Project Success | **Accepted** |
| H2 | Transactional leadership (Leadership Style) has a positive and significance impact on Project Success | **Accepted** |
| H3 | Laissez Faire (Leadership Style) has a positive and significance impact on Project Success. | **Accepted** |
| H4 | Design Error (delay Factors) moderates the relationship between Transformational leadership (leadership Style) and Project Success. | **Accepted** |
| H5 | Design Error (delay Factors) moderates the relationship between Transactional leadership (leadership Style) and Project Success. | **Accepted** |
| H6 | Design Error (delay Factors) moderates the relationship between Laissez Faire leadership (leadership Style) and Project Success. | **Accepted** |

**Conclusion and Discussion**

In the case of the BRT Peshawar project, this study highlights the significant positive impact of leadership styles—Transformational, Transactional, and Laissez-Faire—on project success. Transformational leadership, in particular, played a crucial role in steering the project towards its goals. However, the moderation analysis reveals that design errors and related delays substantially weakened these leadership effects, underscoring the challenges faced during the project execution. These findings suggest that while effective leadership is vital for driving success, the presence of delay factors like design errors in large-scale infrastructure projects such as BRT Peshawar can considerably hinder overall performance and timely delivery. For future projects similar to BRT Peshawar, it is recommended that project managers focus on enhancing transformational and transactional leadership qualities to inspire and effectively manage teams. Simultaneously, stringent quality control measures should be instituted to minimize design errors and associated delays. Incorporating advanced project management tools and proactive risk assessment can help in early detection and mitigation of potential delays. Additionally, fostering transparent communication channels between leadership, engineers, and contractors will be key to addressing design-related challenges promptly and maintaining momentum throughout the project lifecycle. The BRT Peshawar project experience suggests that future infrastructure initiatives in Pakistan and similar contexts should not only emphasize leadership development but also invest heavily in minimizing operational delays through improved design and planning processes. Further research could explore how other external factors—such as political influences, funding constraints, or community engagement—interact with leadership and delay factors to impact project success. Longitudinal studies following projects like BRT Peshawar over time could provide valuable insights into how leadership and delay management evolve and influence long-term sustainability and public satisfaction. Emphasizing these aspects will be crucial for enhancing the success rates of mega infrastructure projects in developing regions.

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